

NASA-LaRC February 1996 Safety News

A Publication of the Office of Safety, Environment and and Mission Assurance (OSEMA)

Hearing Protection

Our hearing is a really amazing ability that we have and use without giving it a thought. Our ears process sounds so they get to the brain and we hear them. Some of the things that our hearing does that we take for granted are; to distinguish the sounds so that we can tell a shout from a whisper, music from machinery, the voice of a friend from the voice of a stranger. Your ears process noise, which can cause damage. Noise above certain levels can damage parts of the ear that stop you from hearing sound in certain frequencies. This type of hearing loss is slow and not noticed at first but noise induced hearing loss is serious and permanent. Hear at LaRC we have many work areas that have high noise levels. This is why you may have to wear a monitor for a day or so to

see the actual exposure level that you are exposed in a normal work day. This is also why you see those boxes of foam ear plugs in certain areas. If the levels are above the NASA Action level you will be placed in the NASA Hearing Conservation Program. The hearing conservation program is used to measure any change in your hearing from year to year while working in a high noise area.

General Hazards

The main hazard of noise is the loss of hearing, this can either be partial or total, and is usually permanent. Sometimes after one long exposure to loud noise you may have a temporary hearing loss. This loss will return, but long term exposure without proper protection is very serious, permanent, and not the only problem caused by too much noise.

Noise Can:

- * Keep you from hearing safety warnings, or understanding what you hear.
- * Cause a strain on you by trying to talk over loud sounds.
- * Cause stress that affects you physically and mentally.

Identifying Hazards

There is very special equipment for measuring noise levels over an eight-hour workday. Here at LaRC we have an action level of 80 decibels (dB), Time weighted average (TWAB). This is obtained by monitoring over the 8 hour workday and averaging it out by downloading the information. If the TWA is 80 or greater you will be placed in the NASA hearing conservation program which is required. We also identify any machinery or tools which have a steady state noise level of 85 dB with high noise labels.

- * Whisper - 10 dB
- * Quiet house - 30 dB
- * Street sounds - 70 dB
- * Factory - 80-90 dB
- * Sander - 85 dB
- * Pneumatic drill - 100 dB
- * Car horn - 120 dB

Hearing Loss Symptoms

How can you tell if you are losing your hearing? It's not easy, but here are some signs:

- * Noise or ringing in your ears
- * Trouble hearing people when they speak
- * Trouble hearing certain high or soft sounds
- * Needing the volume higher on TV or radio, so much that others complain

Protection Against Hazards

The primary method used to protect our hearing is the use of ear plugs or muffs. In some cases there is a need for both plugs and muffs to be worn at the same time. I would like to bring to your attention that the plugs and muffs are designed to reduce the hazardous noise and let the sounds in the speech frequencies pass through. The next time you are in a high noise area with your ear protection on talk to someone and listen to them you will find that you can still communicate while protecting your hearing.

Any questions that you may have concerning the LaRC noise control and hearing conservation program refer to LHB 2710.1.